Accepted Manuscript

Modeling host-seeking behavior of African malaria vector mosquitoes in the presence of long-lasting insecticidal nets

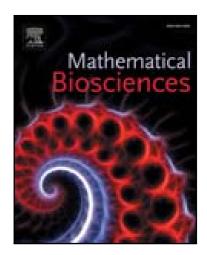
Anna Shcherbacheva, Heikki Haario, Gerry Killeen

PII: \$0025-5564(17)30547-3 DOI: 10.1016/j.mbs.2017.10.005

Reference: MBS 7986

To appear in: Mathematical Biosciences

Received date: 17 May 2016
Revised date: 14 May 2017
Accepted date: 8 October 2017



Please cite this article as: Anna Shcherbacheva, Heikki Haario, Gerry Killeen, Modeling host-seeking behavior of African malaria vector mosquitoes in the presence of long-lasting insecticidal nets, *Mathematical Biosciences* (2017), doi: 10.1016/j.mbs.2017.10.005

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Highlights

- An agent based model of mosquito host-seeking behavior in the presence of Long Lasting Insecticidal Nets (LLINs) is presented and calibrated against experimental data.
- The overall impact of LLINs for the two different mosquito species was quantified using model simulations.
- Using Bayesian uncertainty quantification methods it was shown that while large uncertainties remain in some of the model parameters, all the parameter sets produce statistically identical result for the overall protection.
- Model simulations were generalized to community-scale scenarios that demonstrated systematically lower efficiency of LLINs in control of Anopheles arabiensis compared to Anopheles gambiae

Download English Version:

https://daneshyari.com/en/article/8877096

Download Persian Version:

https://daneshyari.com/article/8877096

<u>Daneshyari.com</u>